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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
CONNOLLY, MARK A	

ART UNIT	PAPER NUMBER
2115	

DATE MAILED: 05/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/876,291	TOBIAS ET AL.	
	Examiner	Art Unit	
	Mark Connolly	2115	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-28 have been presented for examination.

2. Applicant's arguments with respect to claims 1-28 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-2, 4-11, 13-24 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mittal et al [Mittal] US Pat No. 5719800 in view of Hetzler[1] US Pat No 5954820.

5. Referring to claim 1, Mittal teaches the invention substantially including:

a. determining utilization of an integrated circuit (IC) [fig. 1B, Abstract and col. 5 lines 44-54].

b. comparing the determined utilization to a threshold utilization value [fig. 1B and col. 5 lines 44-54].

c. if the determined utilization is above the threshold utilization value, entering a predetermined performance state as the next performance state [fig. 1B and col. 5 lines 44-54].

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[1] As cited in the previous Office Action

Although Mittal teaches entering a predetermined performance state, it is not explicitly taught to skip any performance states between a current performance state and the predetermined performance state. Rather, Mittal teaches IC's with only two performance states which therefore eliminate the possibility of skipping any intermediate performance states. Hetzler teaches devices comprising more than two power states and wherein the device enters a predetermined performance state as a next performance state, skips any performance states between a current performance state and the predetermined performance state [Fig. 8, TABLE 2, col. 2 lines 25-27 and 37-42, col. 12 line 64 - col. 13 line 4 and col. 18 lines 37-45]. In summary, when looking at Fig. 8, the system directly enters the active state P0 from either IDLE state P1 or the power-save mode P2 without entering any intermediate states. In addition, Hetzler explicitly teaches that there is a direct relationship between power states and performance of the system (i.e. higher power modes relate to a higher performance modes). Furthermore, because Hetzler teaches that "the invention is equally applicable to any component of the mobile computer" it is interpreted that the teachings could be applied to the IC taught in Mittal [col. 25 lines 9-10]. It would have been obvious to one of ordinary skill in the art at the time of the invention to include the teachings of Hetzler into the Mittal system because it provides a means to for Mittal to control the power/performance state of an IC with more than two performance states which obviously provides more control over power and performance than that of an IC comprising only two power modes.

6. Referring to claim 2, Hetzler teaches entering a maximum performance state [TABLE 2 (col. 7) and fig. 8 and col. 18 lines 37-381]. State P0 is the maximum performance state according to TABLE 2.

7. Referring to claims 4 and 5, the Mittal-Hetzler system teaches having multiple power modes which are determined according to IC usage [fig. 1B *in Mittal*, fig. 8 *in Hetzler*].

8. Referring to claims 6 and 7, Mittal teaches reducing both the voltage and/or clock frequency [col. 1 liens 36-45].

9. Referring to claim 8, it is obvious that the Mittal-Hetzler system determines the utilization periodically in order to adjust the power mode over time.

10. Referring to claim 9, Mittal teaches that the IC is a microprocessor IC [col. 3 lines 14-17]. Because a CPU is also a microprocessor IC, it is interpreted that the microprocessor IC in Mittal could comprise a CPU.

11. Referring to claim 10, this is rejected on the same basis as set forth hereinabove. Mittal and Hetzler teach the method and therefore teach the system performing the method. Furthermore, Hetzler teaches that the system enters the same performance state for all performance increases [fig. 8]. It can be seen that all performance increases result in the system entering performance state P0.

12. Referring to claim 11, this is rejected on the same basis as set forth hereinabove. Hetzler teaches that the method can be performed by program instructions stored as microcode which is interpreted as instruction sequences [col. 25 lines 51-55].

13. Referring to claims 13-22, these are rejected on the same basis as set forth hereinabove. Mittal and Hetzler teach the method and therefore teach the system performing the method.

14. Referring to claims 23 and 26-28, these are rejected on the same basis as set forth hereinabove. Hetzler teaches that the system can be realized using microcode stored on a computer readable medium [col. 25 lines 51-58].

15. Referring to claim 24, Hetzler teaches that the computer readable medium can come from many different sources [col. 25 lines 54-58].

16. Claims 3, 12 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mittal and Hetzler as applied to claims 1-2, 4-11, 13-24 and 26-28 above, and further in view of Kawata US Pat No 6076171.

17. Referring to claim 3, although the Hetzler-Mittal system teaches adjusting the performance state of the system, it is not explicitly taught adjusting the performance state to a near maximum performance state. Kawata explicitly teaches entering a near maximum performance state [Figures 15 and 17 and col. 16 lines 32-56]. It would have been obvious to one of ordinary skill in the art at the time of the invention to include the teachings of Kawata into the Hetzler-Mittal system because it allows for the system to perform at near maximum levels while still providing some power savings.

18. Referring to claims 12 and 25, these are rejected on the same basis as set forth hereinabove.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Connolly whose telephone number is (571) 272-3666. The examiner can normally be reached on M-F 8AM-5PM (except every first Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas C. Lee can be reached on (571) 272-3667. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark Connolly
Examiner
Art Unit 2115

mc
May 18, 2005

THOMAS LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100